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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,315	07/18/2003	Yoshimoto Matsuda	ACO 351	4340

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EXAMINER
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NGUYEN, TU MINH

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/622,315

Applicant(s)

MATSUDA, YOSHIMOTO

Examiner

Tu M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 071803.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The abstract of the disclosure is objected to because of the use of open ended phrase “comprise” on lines 2-3. Correction is required. See MPEP § 608.01(b).

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 4-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Lindstedt (U.S. Patent 5,109,668).

Re claim 1 and 4, as shown in Figure 1, Lindstedt discloses an exhaust pipe collecting structure for a multi-cylinder engine unit having multiple cylinders, in which exhaust pipes (16, 18, 20, 22) extend from at least four cylinders of the multiple cylinders and are collected into one exhaust passage (148) at a location downstream of the exhaust pipes in a flow of exhaust gases, the structure comprising:

- a first exhaust pipe group (16, 18) and a second exhaust pipe group (20, 22) each of which is comprised of two exhaust pipes selected from four exhaust pipes respectively connected to the four cylinders;

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- a first exhaust sub-collecting pipe (56) cast integrally with the first exhaust pipe group;
- a second exhaust sub-collecting pipe (58) cast integrally with the second exhaust pipe group;
- a first joint portion (50) located at a downstream end portion of the first exhaust sub-collecting pipe; and
- a second joint portion (52) located at a downstream end portion of the second exhaust sub-collecting pipe, the first and second joint portions respectively having outer walls joined to each other to allow exhaust passages of the first and second joint portions to be defined by the outer walls,

wherein the first joint portion and the second joint portion are joined to each other to allow the first and second exhaust sub-collecting pipes to be integral with each other as seen from outside, an exhaust gas discharged from the first exhaust pipe group is led into the exhaust passage (56) of the first joint portion (50) and an exhaust gas discharged from the second exhaust pipe group is led into the exhaust passage (58) of the second joint portion (52), and exhaust passages inside the joint portions are arranged adjacently.

Re claim 5, the structure of Lindstedt further comprises a connecting tube (148) located downstream of the first and second joint portions, for collecting the exhaust gases flowing through the exhaust passages inside the first and second joint portions.

Re claim 6, in the structure of Lindstedt, the connecting tube (148) is cast by a mold with a two-part parting line extending along a longitudinal direction of the connecting tube, as clearly shown in Figure 1.

Re claim 7, in the structure of Lindstedt, the first (56) and second (58) exhaust sub-collecting pipes and the connecting tube (148) have double-walled structures to have cooling passages between walls.

Re claim 8, as shown in Figure 1, Lindstedt discloses an exhaust pipe collecting structure for a multi-cylinder engine unit having multiple cylinders, in which exhaust pipes (16, 18, 20, 22) extend from cylinders of the multiple cylinders and are collected into one exhaust passage (148) at a location downstream of the exhaust pipes in a flow of exhaust gases, the structure comprising:

- connecting tube (148); and
- an exhaust manifold attached on the connecting tube, the exhaust manifold including:
  - a first exhaust sub-collecting pipe (56) and a second exhaust sub-collecting pipe (58) located on downstream portions of exhaust pipes extending from the cylinders, the first and second exhaust sub-collecting pipes being configured to have internal independent exhaust passages (26, 28, 30, 32) of the exhaust gases flowing from the exhaust pipes, the first and second exhaust sub-collecting pipes being integral with each other at least at their joint portions as seen from outside; and
  - a first water jacket (38, 126) formed at the joint portions to have a water flow cross-section elongate in a direction perpendicular to a casting parting plane forming a boundary of the first and second exhaust sub-collecting pipes as seen in a cross-sectional view.

Re claim 9, in the structure of Lindstedt, the multiple cylinders are four cylinders, the first exhaust sub-collecting pipe (56) is configured to have internal independent exhaust

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passages (26, 28) of the exhaust pipes of two cylinders selected from the four cylinders, and the second exhaust sub-collecting pipe (58) is configured to have internal independent exhaust passages (30, 32) of the exhaust pipes of the remaining two cylinders, the first water jacket (38, 126) is formed at the joint portions where the first and second exhaust sub-collecting pipes are integral with each other, to have the water flow cross-section that is elongate in a direction from a region between the two exhaust pipes of the first exhaust sub-collecting pipe to a region between the two exhaust pipes of the second exhaust sub-collecting pipe so as to cross the casting parting plane forming the boundary of the first and second exhaust sub-collecting pipes as seen in a cross-sectional view.

Re claim 10, in the structure of Lindstedt, the exhaust pipe collecting structure is integrally cast by locating the casting parting plane of the exhaust pipe collecting structure within one continuous plane.

Re claim 11, in the structure of Lindstedt, the connecting tube comprises (148):

- a plurality of connecting exhaust passages (26, 28, 30, 32) communicating with the exhaust pipes of the exhaust manifold and being merged into a single exhaust passage (36); and
- a second water jacket (122) extending to a position upstream of the single exhaust passage so as to substantially define two groups of the connecting exhaust passages.

Re claim 12, in the structure of Lindstedt, the connecting exhaust passages (26, 28, 30, 32) are collected at a location inside the connecting tube provided downstream of the exhaust manifold having the exhaust pipes.

Re claim 13, in the structure of Lindstedt, the first water jacket (38) is formed in part of the exhaust sub-collecting pipes (56, 58) so as to substantially define exhaust passages of the

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exhaust sub-collecting pipes as seen in a cross-sectional view, and at a connecting portion between the exhaust manifold and the connecting tube, the first water jacket of the exhaust manifold is connected to the second water jacket (122) of the connecting tube such that a longitudinal axis of a water flow cross-section of the first water jacket of the exhaust manifold crosses a longitudinal axis of a water flow cross-section of the second water jacket of the connecting tube.

Re claim 14, in the structure of Lindstedt, a water flow portion where the water flow cross-section of the first water jacket (38) of the exhaust manifold and the water flow cross-section of the second water jacket (122) of the connecting tube overlap with each other with their longitudinal axes crossing each other is enlarged, as clearly shown in Figure 1.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (U.S. Patent 6,122,911).

Re claim 1 and 4, as shown in Figure 2, 9, and 10, Maeda et al. disclose an exhaust pipe collecting structure for a multi-cylinder engine unit having multiple cylinders, in which exhaust

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pipes (152, 154, 156, 158) extend from at least four cylinders of the multiple cylinders, the structure comprising:

- a first exhaust pipe group and a second exhaust pipe group each of which is comprised of two exhaust pipes selected from four exhaust pipes respectively connected to the four cylinders (as clearly shown in Figure 2);
- a first exhaust sub-collecting pipe (not numbered but clearly shown in Figure 2) cast integrally with the first exhaust pipe group;
- a second exhaust sub-collecting pipe (not numbered but clearly shown in Figure 2) cast integrally with the second exhaust pipe group;
- a first joint portion (not numbered but clearly shown in Figure 2) located at a downstream end portion of the first exhaust sub-collecting pipe; and
- a second joint portion (not numbered but clearly shown in Figure 2) located at a downstream end portion of the second exhaust sub-collecting pipe, the first and second joint portions respectively having outer walls joined to each other to allow exhaust passages of the first and second joint portions to be defined by the outer walls,

wherein the first joint portion and the second joint portion are joined to each other to allow the first and second exhaust sub-collecting pipes to be integral with each other as seen from outside, an exhaust gas discharged from the first exhaust pipe group is led into the exhaust passage of the first joint portion and an exhaust gas discharged from the second exhaust pipe group is led into the exhaust passage of the second joint portion, and exhaust passages inside the joint portions are arranged adjacently (see Figure 10).



Maeda et al., however, fail to disclose that the exhaust pipes (152, 154, 156, 158) are collected into one exhaust passage at a location downstream of the exhaust pipes.

It is well known to those with ordinary skill in the art that the four exhaust pipes in Maeda et al. are collected into one exhaust passage at a location downstream in order to have the exhaust gas purified by a single catalytic converter. Therefore, such disclosure by Maeda et al. is notoriously well known in the art so as to be proper for official notice.

Re claim 2, in the structure of Maeda et al., as illustrated in Figure 10, the first joint portion has a first semicylindrical peripheral wall opened toward the second joint portion with a parting line extending along a direction of the flow of the exhaust gases, the second joint portion has a second semicylindrical peripheral wall opened toward the first joint portion with a parting line extending along a direction of the flow of the exhaust gases, and the first and second semicylindrical peripheral walls are joined to be formed into the one exhaust passage such that an opening of the first joint portion and an opening of the second joint portion face each other and the direction of the flow of exhaust gases of the first joint portion corresponds with the direction of the flow of exhaust gases of the second joint portion.

Re claim 5, as explained above, the structure of Maeda et al. further comprises a connecting tube located downstream of the first and second joint portions, for collecting the exhaust gases flowing through the exhaust passages inside the first and second joint portions.

6. Claims 3 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. as applied to claims 2 and 5, respectively, above, in view of Mashiko et al. (U.S. Patent 6,454,622).

Re claim 3, the structure of Maeda et al. discloses the invention as cited above, however, fails to disclose a rubber tube that covers an outer periphery of the first and second semicylindrical peripheral walls that are joined to face each other.

As shown in Figure 43, Mashiko et al. teach the use of rubber tube (390) that covers an outer periphery of a connection section of the four exhaust pipes. It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the rubber tube taught by Mashiko et al. in the structure of Maeda et al., since the use thereof would have provided an excellent thermal insulation to the exhaust collecting structure.

Re claims 6-7, in the modified structure of Maeda et al., as shown in Figure 41 of Mashiko et al., the connecting tube (240c) is cast by a mold with a two-part parting line extending along a longitudinal direction of the connecting tube; wherein the first and second exhaust sub-collecting pipes (238c1-238c4) and the connecting tube have double-walled structures to have cooling passages (240d) between walls.

#### ***Prior Art***

7. The IDS (PTO-1449) filed on July 18, 2003 has been considered. An initialized copy is attached hereto.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of three patents: Blocker et al. (U.S. Patent 5,816,045), Maeda (U.S. Patent 6,199,376), and Yoshirawa et al. (U.S. Patent 6,725,655) further disclose a state of the art.

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*Communication*

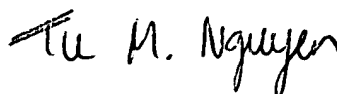
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Tu Nguyen whose telephone number is (571) 272-4862.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas E. Denion, can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TMN

April 18, 2005



Tu M. Nguyen

Primary Examiner

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